

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A computer-implemented method of constructing a portfolio of investment assets that are held for a customer in a customer account, the method comprising:

retrieving by one or more computer systems one or more target allocation ranges, each target allocation range including an upper limit value and a lower limit value for a type of investment asset to include in the portfolio;

receiving a list of investment assets available for inclusion in the portfolio;

selecting by one or more computer systems investment assets from the list of investment assets based on a measure of the risk-adjusted excess return of selected investment assets and the retrieved target allocation ranges;

adding the selected investment assets to the portfolio of investment assets;

determining by the one or more computer systems an asset allocation value for a first type of investment asset in the portfolio;

comparing by the one or more computer systems the asset allocation value for the first type of investment asset to an upper limit value and a lower limit value of the target allocation range for the first type of investment asset; and

determining based on the comparison that the asset allocation value for the first type of investment asset is outside the target allocation range for the first type of investment asset.

2. (Previously presented) The computer-implemented method of claim 1 wherein the types of investment assets comprise fixed income assets.

3. (Previously presented) The computer-implemented method of claim 1 wherein the one or more target allocation ranges are associated with one or more categories of financial risk.

4. (Previously presented) The method of claim 1 wherein determining by the one or more computer systems an asset allocation value for a first type of investment asset in the portfolio further comprises:

verifying that the asset allocation value for the first type of investment asset in the portfolio substantially matches a target allocation value included in the target allocation range for the first type of investment asset.

5. (Previously presented) The computer-implemented method of claim 1 further comprising determining one or more target allocation ranges.

6. (Previously Presented) The computer-implemented method of claim 5 wherein the determining comprises categorizing an investor based on investor responses to questions.

7. (Previously Presented) The computer-implemented method of claim 1 wherein the measure of risk-adjusted excess return comprises an alpha measurement determined in accordance with:

$$R_t = \alpha + \beta_1 R_{1t} + \beta_2 R_{2t} + \dots + \beta_N R_{Nt} + \varepsilon_t, \text{ where}$$

α = the risk adjusted excess return (alpha);

R_t = the excess return of a fund in month t ;

R_{kt} = the excess return of factor k in month t ($K = 1 \dots N$);

β_k = the β of factor k ($k = 1 \dots N$);

ε_t = the tracking error in month t .

8. (Previously presented) The computer-implemented method of claim 1 further comprising determining weightings of risk for the selected investment assets.

9. (Currently Amended) The computer-implemented method of claim 8 wherein determining weightings of risk comprises determining weightings using

$$\begin{aligned} & \text{Minimize } \lambda W^T H W - G^T W \\ & \text{Subject } \sum_{i=1}^N W_i = 1 \\ & \text{Upper}_{stock} \geq \text{Stock}\% \geq \text{Lower}_{stock} \\ & \text{Upper}_{bonds} \geq \text{Bonds}\% \geq \text{Lower}_{bonds} \\ & \text{Upper}_{cash} \geq \text{Cash}\% \geq \text{Lower}_{cash} \\ & \text{Upper}_{foreign} \geq \text{Foreign}\% \geq \text{Lower}_{foreign} \end{aligned}$$

where

W = weight matrix of fund tracking error wrt the investment benchmark

G = p - value of funds

λ = risk aversion ratio

and

$$p\text{-value} = t\text{-distribution}(\text{student } t, n - p - 1)$$
$$\text{student } t = \frac{\alpha}{\sigma(\varepsilon_t)/\sqrt{n - p}} = \text{information ratio} \times \sqrt{n - p}$$
$$\text{Information ratio} = \alpha/\sigma(\varepsilon_t)$$

where

α = average risk adjusted excess return during the period;

$\sigma(\varepsilon_t)$ = tracking - error wrt the custom benchmark;

n = number of observations;

p = number of the independent random variables;

$n - p - 1$ = degrees of freedom in t - test.

10. (Previously Presented) The computer-implemented method of claim 1 wherein selecting further comprises selecting based on investment net assets.

11. (Previously Presented) The computer-implemented method of claim 1 wherein selecting further comprises selecting based on a categorization of an investment.

12. (Previously Presented) The computer-implemented method of claim 11 wherein the categorization includes an investment objective.

13. (Previously Presented) The computer-implemented method of claim 11 wherein selecting further comprises selecting based on a style-category of an investment.

14. (Previously Presented) The computer-implemented method of claim 1 wherein selecting comprises selecting based on an R^2 descriptive statistic indicating the consistency of an investment's risk-adjusted excess return measure.

15. (Previously Presented) The computer-implemented method of claim 1 further comprising evaluating the constructed portfolio to verify that the constructed portfolio includes a specified level of fund diversification.

16. (Previously presented) The computer-implemented method of claim 15 wherein evaluating the constructed portfolio further comprises determining whether sector allocation of the constructed portfolio matches a sector allocation of a market benchmark.

17. (Previously presented) The computer-implemented method of claim 15 wherein evaluating the constructed portfolio comprises determining whether one of the selected investments in the constructed portfolio causes the constructed portfolio to exceed the target allocation range for a particular type of investment asset.

18. (Previously presented) The computer-implemented method of claim 15 wherein evaluating the constructed portfolio comprises determining whether the portfolio includes a target allocation range for a particular type of asset.

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19. (Previously Presented) The computer-implemented method of claim 15 further comprising constructing a second portfolio.

20. (Previously presented) The computer-implemented method of claim 19 wherein constructing a second portfolio comprises constructing a different portfolio after modifying the one or more target allocation ranges.

21. (Previously presented) The computer-implemented method of claim 1 further comprising generating a report describing the constructed portfolio.

22. (Previously presented) The computer-implemented method of claim 1 further comprising receiving a target allocation range for company stock.

23. (Previously presented) The computer-implemented method of claim 22 further comprising:

receiving data that allocates part of the portfolio to a company's stock; and
adjusting the received target allocation range for company stock based on the received portfolio allocation to company stock.

24. (Previously presented) The computer-implemented method of claim 23 further comprising:

adjusting the one or more target allocation ranges for different types of investment assets such that the target allocation ranges and the allocation to company stock have an associated risk level substantially the same as a risk level associated with a portfolio not having an allocation to company stock.

25. (Currently Amended) A computer-implemented method of constructing a portfolio, the method comprising:

receiving target allocations of percentages of different types of assets, the types of assets comprising domestic stock funds, foreign stock funds, bonds, and fixed income assets;

receiving a list of investments available for inclusion in the portfolio;

screening by one or more computers the list of investments;

causing one or more computers to select and weight investments from the screened list of investments based on a measure of the risk-adjusted excess return of selected investments and the received target allocations, the measure of risk-adjusted excess return comprising an alpha measurement determined in accordance with:

$$R_t = \alpha + \beta_1 R_{1t} + \beta_2 R_{2t} + \dots + \beta_N R_{Nt} + \varepsilon_t,$$

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where

α = the risk adjusted excess return (alpha);

R_t = the excess return of a fund in month t ;

R_{kt} = the excess return of factor k in month t ($K = 1 \dots N$);

β_k = the β of factor k ($k = 1 \dots N$);

ε_t = the tracking error in month t ;

the weightings determined using

$$\text{Minimize } \lambda W^T H W - G^T W$$

$$\text{Subject } \sum_{i=1}^N W_i = 1$$

$$Upper_{stock} \geq Stock\% \geq Lower_{stock}$$

$$Upper_{bonds} \geq Bonds\% \geq Lower_{bonds}$$

$$Upper_{cash} \geq Cash\% \geq Lower_{cash}$$

$$Upper_{foreign} \geq Foreign\% \geq Lower_{foreign}$$

where

W = weight matrix of fund tracking error wrt the investment benchmark

G = p - value of funds

λ = risk aversion ratio

and

p - value = t - distribution (student t , $n - p - 1$)

$$\text{student } t = \frac{\alpha}{\sigma(\varepsilon_t)/\sqrt{n-p}} = \text{information ratio} \times \sqrt{n-p}$$

$$\text{Information ratio} = \alpha / \sigma(\varepsilon_t)$$

where

α = average risk adjusted excess return during the period;

$\sigma(\varepsilon_t)$ = tracking - error wrt the custom benchmark;

n = number of observations;

p = number of the independent random variables;

$n - p - 1$ = degrees of freedom in t - test.

26. (Previously presented) A computer program product, disposed on a computer readable storage medium, for constructing a portfolio of investment assets that are held for a customer in a customer account, the computer program product including instructions for causing a processor to:

retrieve one or more target allocation ranges, each target allocation range including an upper limit value and a lower limit value for a type of investment asset to include in the portfolio;

receive a list of investment assets available for inclusion in the portfolio;

select investment assets from the list of investment assets based on a measure of the risk-adjusted excess return of selected investment assets and the retrieved target allocation ranges;

add the selected investment assets to the portfolio of investment assets;

determine an asset allocation value for a first type of investment asset in the portfolio;

compare the asset allocation value for the first type of investment asset to an upper limit value and a lower limit value of the target allocation range for the first type of investment asset;
and

determine based on the comparison that the asset allocation value for the first type of investment asset is outside the target allocation range for the first type of investment asset.

27. (Previously Presented) The computer program product of claim 26 wherein the types of investment assets comprise fixed income assets.

28. (Previously presented) The computer program product of claim 26 wherein the one or more target allocation ranges are associated with one or more categories of financial risk

29. (Previously presented) The computer program product of claim 26 wherein instructions to determine an asset allocation value for a first type of investment asset in the portfolio further comprises instructions to:

verify that the asset allocation value for the first type of investment asset in of the portfolio substantially matches a target allocation value included in the target allocation range for the first type of investment asset.

30. (Previously Presented) The computer program product of claim 26 wherein the measure of risk-adjusted excess return comprises an alpha measurement determined in accordance with:

$$R_t = \alpha + \beta_1 R_{1t} + \beta_2 R_{2t} + \dots + \beta_N R_{Nt} + \varepsilon_t,$$

where

α = the risk adjusted excess return (alpha);

R_t = the excess return of a fund in month t ;

R_{kt} = the excess return of factor k in month t ($K = 1 \dots N$);

β_k = the β of factor k ($k = 1 \dots N$);

ε_t = the tracking error in month t .

31. (Previously Presented) The computer program product of claim 26 further comprising instructions for causing the processor to determine weightings of risk for the selected investments.

32. (Currently Amended) The computer program product of claim 31 wherein the instructions to determine weightings of risk comprises instructions for determining weightings using

$$\text{Minimize } \lambda W^T H W - G^T W$$

$$\text{Subject } \sum_{i=1}^N W_i = 1$$

$$Upper_{stock} \geq Stock\% \geq Lower_{stock}$$

$$Upper_{bonds} \geq Bonds\% \geq Lower_{bonds}$$

$$Upper_{cash} \geq Cash\% \geq Lower_{cash}$$

$$Upper_{foreign} \geq Foreign\% \geq Lower_{foreign}$$

where

W = weight matrix of fund tracking $[[_]]$ -error wrt the investment benchmark

G = p - value of funds

λ = risk aversion ratio

and

p - value = t - distribution (student t , $n - p - 1$)

$$\text{student } t = \frac{\alpha}{\sigma(\varepsilon_t)/\sqrt{n - p}} = \text{information ratio} \times \sqrt{n - p}$$

$$\text{Information ratio} = \alpha / \sigma(\varepsilon_t)$$

where

α = *average risk adjusted excess return during the period;*

$\sigma(\varepsilon_t)$ = *tracking - error wrt the custom benchmark;*

n = *number of observations;*

p = *number of the independent random variables;*

$n - p - 1$ = *degrees of freedom in t - test.*

33. (Previously presented) The computer program product of claim 26 wherein the instructions for causing a processor to select investment assets further comprise instructions to select investment assets based on investment net assets.

34. (Previously presented) The computer program product of claim 26 wherein the instructions for causing a processor to select investment assets further comprise instructions to select investment assets based on a categorization of an investment.

35. (Previously presented) The computer program product of claim 26 wherein the instructions for causing a processor to select investment assets further comprise instructions to select investment assets based on an R^2 descriptive statistic indicating the consistency of an investment's risk-adjusted excess return measure.

36. (Previously Presented) The computer program product of claim 26 further comprising instructions for evaluating the constructed portfolio to verify that the constructed portfolio includes a specified level of fund diversification.

37. (Previously Presented) The computer program product of claim 36 wherein the instructions for evaluating the constructed portfolio comprise instructions for determining

whether sector allocation of the constructed portfolio follows a sector allocation of a market benchmark.

38. (Previously presented) The computer program product of claim 26 further comprising instructions for modifying the one or more target allocation ranges.

39. (Previously presented) The computer program product of claim 26 further comprising instructions for receiving a target allocation range for company stock.

40. (Previously presented) The computer program product of claim 39 further comprising instructions for:

receiving data that allocates part of the portfolio to a company's stock; and
adjusting the received target allocation range for company stock based on the received portfolio allocation to company stock.

41. (Previously presented) The computer program product of claim 40 further comprising instructions to:

adjust the one or more target allocation ranges for different types of investment assets such that the target allocation ranges and the allocation to company stock have an associated risk level substantially the same as a risk level associated with a portfolio not having an allocation to company stock.